a control circuit having a DC current signal stored thereon, the control circuit deriving a reference signal in response to a set point parameter and comparing the DC electric characteristic signal and the DC current signal with the reference signal to generate control signals in response thereto; and

A1 cont'd. a signal inversion circuit to generate drive signals in accordance with the control signals that modify the speed of the AC electric motor in response to indicated changes in the motor attribute to correspond to the set point parameter.

2. (Amended) The system of claim 1 in which the signal measurement circuit samples the DC electric signal at a selected sampling frequency to derive the DC electric characteristic signal.

7. (Amended) The system of claim 1 wherein the set point parameter is a torque set point and wherein the reference signal is a torque reference signal such that the torque reference signal is used to generate the control signals being representative of a determined adjustment to a dimension of the drive signals generated by the signal inversion circuit to selectively drive the motor.

A2

Cancel claim 8.

23 N. (Amended) The system of claim ~~20~~ 15 in which the dimension of the drive signal is frequency.

24 ~~12~~. (Amended) The system of claim ~~26~~ 15 in which the dimension of the drive signals is voltage.

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25 ~~13~~. (Amended) The system of claims ~~26~~ 15 in which the set point parameter is determined by evaluation of the motor driving the cyclic load in an unregulated mode.

10 ~~14~~. (Amended) A method for controlling speed of a variable drive system driven AC electric motor connected to a cyclic load, the method comprising the steps of:

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converting an AC electric signal to a DC electric signal

deriving a set of DC electric characteristic signals from the DC electrical signal;

generating first and second sets of control signals in response to the set of DC electrical characteristic signals stored DC current signal and a set point parameter; and

~~a predetermined DC current signal;~~ .112

inverting the DC electric signal in response to the first and second sets of control signals to generate a set of drive signals to modify the speed of the AC electric motor in response to indicated changes in the motor attribute to correspond to the set point parameter.

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A3. cont'd.

cancel claim 17

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17~~18~~. (Amended) The method of claim ~~17~~ 16 in which the step of generating first and second sets of control signals further comprises the step of:

A4

comparing the DC current signal with the first reference signal and the stored DC current signal magnitude and comparing the desired parameter signal with the second reference signal for modifying the speed of the AC electric motor.

Cancel claims 22 and 23.

Add new claims 26-29 as follows:

15~~26~~. A system for controlling the speed of an AC electric motor connected to a cyclical load, the system comprising:

a signal conversion circuit to convert an AC electric signal to a DC electric signal;

a signal measurement circuit to derive from the DC electrical signal, a DC electric characteristic signal corresponding to a motor attribute;

A5

a control circuit responsive to the DC electric characteristic signal and target torque range, the control circuit deriving a speed reference signal and using the speed reference signal to derive control signals ; and

a signal inversion circuit to generate drive signals in accordance with the control signals that modify the speed of the AC electric motor in response to indicated changes in the motor attribute to correspond to the set point parameter wherein the control signals

A

are representative of a determined adjustment to a dimension of the drive signals generated by the signal inversion circuit to selectively drive the motor.

27. A method for controlling speed of a variable drive system driven AC electric motor connected to a cyclic load, the method comprising the steps of:

converting an AC electric signal to a DC electric signal;

deriving a set of DC electric characteristic signals from the DC electrical signal, wherein the steps of deriving the set includes the step of sensing the DC electric signal at a selected sampling frequency having a time period to produce the set of DC electric characteristic signals which includes a DC current signal and a DC voltage signal; and

generating first and second sets of control signals in response to the set of DC electric characteristic signals and a set point parameter; wherein the steps of generating the first and second sets includes the steps:

deriving a first reference signal from the set operational parameters; ~~and~~ storing the DC current signal magnitude and deriving a desired parameter signal from the sensed DC voltage signal and the voltage-frequency profile in each of the time period of the selected sampling frequency; and inverting the DC electrical signal in response to the first and second sets of control signals to generate a set of drive signals to modify the speed of the AC electric motor in response to indicated changes in the motor attribute to correspond to the set point parameter.

28. A method for controlling speed of a variable drive system driven AC electric motor connected to a cyclic load, the method comprising the steps of:

converting an AC electric signal to a DC electric signal;

deriving a set of DC electric characteristic signals from the DC electric signal;

generating first and second sets of control signals in response to the set of DC electric characteristic signals and a second point parameter; wherein the step of generating first and second sets of control signals includes the step of receiving the set of operational parameters, the voltage-frequency profile, and the set point parameter; and

inverting the DC electric signal in response to the first and second sets of control signals to generate a set of drive signals to modify the speed of the AC electric motor in response to indicated changes in the motor attribute to correspond to the set point parameter.

22 29. A method of controlling speed of a variable drive system driven AC electric motor connected to a cyclic load, the method comprising the steps of:

converting an AC electric signal to a DC electric signal;

deriving a set of DC electric characteristic signals from the DC electric signal;

generating first and second sets of control signals in response to the set of DC electric characteristic signals and a set point parameter; wherein the step of generating first and second sets of control signals includes the steop of pre-loading the set of operation parameters, the voltage-frequency profile, and the set point parameter; and

inverting the DC electric signal in response to the first and second sets of control signals to generate a set of drive signals to modify the speed of the AC electric motor in response to indicated changes in the motor attribute to correspond to the set point parameter. ---

A5 cont.

REMARKS

Initially, it is noted that the Examiner has indicated that claims 8, 11-13 and 17-23 contain allowable subject matter and has indicated that claims 24 and 25 are allowable. As such, Applicant has rewritten dependent 8 as independent claim 26 and now believes that independent claim 26 is in proper form for allowance. Claims 11-13 depend either directly or indirectly from independent claim 26 and are now believed allowable as depending from an allowable base claim and in view of the subject matter of each claim. Applicant has also rewritten dependent claims 17, 22 and 23 as new independent claims 27, 28 and 29, respectively. It is believed that new independent claims 27-29 are in proper form for allowance and such action is earnestly solicited. Claims 18-21 depend either directly or indirectly from independent claim 27 and are believed allowable as depending from an allowable base claim and in view of the subject matter of each claim.